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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,293	11/19/2003	Bruce W. Ramme	960049.90324	7543

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EXAMINER	
MARCANTONI, PAUL D	
ART UNIT	**PAPER NUMBER**
1755	

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/717,293	RAMME ET AL.	
	Examiner	Art Unit	
	Paul Marcantoni	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5-11,13-18, and 20-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Applicant's arguments filed 5/3/06 have been fully considered but they are not persuasive. Applicants' amendment necessitated the new grounds of rejection.

New Matter:

Claims 1,3,5-11,13-18, and 20-23 are rejected under the first paragraph of 35 USC 112 and 35 USC 132 as the specification as originally filed does not provide support for the invention as is now claimed.

The terms "wherein the fluidized bed conveyer is an air slide" added to applicants' independent claims is new matter. Also, claims 21-23 (new claims) would also appear to be new matter not supported by the original disclosure.

35 USC 103:

Claims 1,3,5-11,13-18, and 20-23 are rejected under 35 U.S.C. 103(a) as obvious over Srinivasachar et al. '447 or 120, Matsuyama et al. 663, Siddle '851 B1, Edlund et al. '567 B1, *Zemskov et al., EP 380467 (Fercher et al.), Fujita (JP 04061981), Hamaguchi et al. (JP 07155722 or JP 07155723), Hoermeyer et al. (DE 19801321), Okada (JP 2003154233), or Cochran et al. (RD 470003)* alone or in view of Tolman (US Patent No. 5,280,701) and line 6 , page 8 of applicants specification admitting that their process "may" be a continuous process (not must be a continuous process).

Note : Italicized references are one page abstracts only.

All of the above cited references teach heating a sorbent which can be a solid material such as fly ash, activated carbon, soil, etc. to liberate mercury from these solid particulates thus anticipating the instant invention. Even if not anticipated, overlapping

ranges of temperature would have been prima facie obvious to one of ordinary skill in the art and would have expected to obtain the same result of mercury removal (see abstract and claims for each reference teaching heating to remove mercury).

The applicants also present a particular method how they heat or pass heat through openings to remove mercury. It is the examiner's position that technique of heating would have been an obvious design choice for one of ordinary skill in the art as long as a critical temperature is achieved that leads to the removal/liberation of mercury from the solid particulate matter.

Tolman teaches that the use of a fluidized bed combustor as a heating means is old and conventional in the art and could have been applied as the heating source for the primary references above because this heating technology was known at the time of the applicant's invention. Also, the applicants do not require that their process be continuous but only that it may be continuous. Neverthless, it is still prima facie obvious for one of ordinary skill in the art to make a batch process continuous. *In re Dilnot 138 USPQ 248 (CCPA 1963).*

Response (to earlier non-final rejection):

The applicants again repeat arguments that as a result of their amendment of placing the particulate matter containing mercury on *a fluidized bed* conveyor wherein it is heated, it is held patentably distinct over the prior art. The applicants further argue that the material may be heat treated to remove the mercury and conveyed at the same time (ie simultaneously). In rebuttal, the applicants do not dispute that it is old in the art to treat sorbent or material containing affixed mercury in a heating range overlapping the instant invention. They only argue that their material is heated and conveyed versus the prior art which is alleged to be batch or stationary heating of the mercury contaminated sorbent. In other words, applicants' process is allegedly patentably distinct over the prior art because it is a continuous process and uses a fluidized bed. In rebuttal, the applicants do not state that in their own specification that the process of the invention must be continuous but only that the method "may" be a continuous

process (see line 6 of page 8 of applicants' specification [0029]) wherein the temperature of the sorbent is exposed to heated air to remove the mercury. Applicants thus leave open the possibility by using "may" for a batch or stationary (non-continuous) process wherein no conveyance occurs but only direct heating of the mercury contaminated sorbent. There is no requirement that their process *must* be a continuous process.

Also, it is the examiner's position that it it would have been an obvious design choice for the applicants to utilize either a continuous process involving both heating and conveying the mercury contaminated sorbent wherein the mercury is removed or a batch process. First, It is well within the expected skill of the technician of ordinary skill in the art to operate a process continuously. See In re Dilnot 796 OG 591, 1963 CD 745 (p.752); In re Lincoln, 1942 CD 386; Dow v Coe, 1942 CD 128; In re Korpi et al.. 1947 CD 290 73 USPQ 229). Second, it is also within the level of ordinary engineering skill in the art to convert a process from a continuous process to a batch process and vice versa. In re Dilnot 138 USPQ 248 (CCPA 1963). The performance of two steps simultaneously which have previously been performed in sequence was held to have been obvious. In re Tatincloux 108 USPQ 125 (CCPA 1955).

The applicants argue that the case law See In re Dilnot 796 OG 591, 1963 CD 745 (p.752); In re Lincoln, 1942 CD 386; Dow v Coe, 1942 CD 128; In re Korpi et al.. 1947 CD 290 73 USPQ 229) all required that all the elements of the claimed invention were shown with the exception of the continuous limitation. The applicants appear to hold the position that the prior art does not teach all the limitations of their claimed process. The examiner disagrees because the prior art does teach all the elements of applicants' claimed process which is merely heating the sorbent such as fly ash or activated carbon at a temperature of at least 700 F to liberate mercury from the sorbent. While the prior art would not all teach a continuous process, it has been shown by this case law that making a batch process a continuous process is well established as prima facie obvious to one of ordinary skill in the art.

Response to 5/3/06 Applicants' Arguments:

The prior art teaches what would appear to be both batch and continuous and the examiner has already shown that the use of a different heating source (e.g. fluidized bed with conveyor) is old in the art. The applicants' original claims of their application (independent claims) were only directed to heating mercury affixed to a sorbent (e.g. fly ash) to remove the mercury. Now, applicants have argued the criticality of moving or conveying the fly ash while it is being heated to remove the mercury. The examiner

maintains that it is simply making a batch process continuous. It is also noted that not all the prior art is limited to batch processing and appears to also teach a continuous process as shown by the figures of the apparatus used in the prior art processes for the primary references above.

The applicants now focus the argument on an air slide for their fluidized bed for conveyance of the heated material. Yet, this would appear to be an obvious design choice modification for one of ordinary skill in the art familiar with fluidized bed combustion and conveyance of heated material. The applicants do not dispute that it is old in the art to simply heat a sorbent such as fly ash to remove mercury and thus tacitly acknowledge a simple batch processing to remove mercury by heating fly ash or other sorbent material is old in the art. They focus even in more particular on the fluidized bed conveyance source as an air slide. This again would appear to be an obvious design choice for those familiar with fluidized bed for conveyance of materials.

The applicants appear to disagree with the position that is within Chapter 2100 (Patentability) that it is not obvious to one of ordinary skill in the art to make a batch or stationary process continuous. They refute the case law of record. The examiner disagrees and notes there are numerous instances in technology wherein it is obvious to make a batch process continuous. Since applicants are essentially cleaning or removing the mercury from a sorbent such as fly ash by heating in a continuous process, the same result can be accomplished in a batch or stationary heating arrangement process. The applicants invention can be analogous to a dirt removal operation of a car (car wash) that can be done in one's driveway or paid for stalls

(stationary) versus a continuous automatic car wash that conveys or moves one's car through many jets of water and soap to remove the dirt. In the end, both lead to the same result of a clean car with dirt removed and it is the examiner's position that the same can be said regarding most processes for making a batch process continuous unless applicants can show an unexpected result or criticality using one method over the other. Both methods appear to remove mercury in the same effectiveness. The examiner maintains the rejection above is proper and the finality of this office action is also now proper.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul Marcantoni
Primary Examiner
Art Unit 1755